

Application No: 10/520,232
Amendment A
Reply to Office Action Dated 07/26/2007

Attorney Docket No: 3926.127

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IN THE SPECIFICATION:

Please amend paragraph [0002] as follows:

[0002] The invention relates to a method for cleaning at least one surface of a component using a cleaning device, the surface of the component being cleaned by means of a cleaning head which can be moved by a positioning device, while forming a contact pressure of the cleaning head on the component, ~~according to the precharacterizing clause of claim 1.~~ Furthermore, the invention relates to a cleaning device which serves for cleaning at least one surface of a component and has a cleaning head which can be moved by means of a positioning device; ~~corresponding to the precharacterizing clause of claim 9.~~

Please amend paragraph [0005] as follows:

[0005] To achieve the object, the present invention provides a method ~~with the features of claim 1 is proposed.~~ ~~The method according to the invention~~ which is distinguished by the fact that the positioning device has a rough positioning system and a fine positioning system, the cleaning head being moved in a force-controlled manner by means of the fine positioning system in at least one direction of movement.

Please amend paragraph [0009] as follows:

[0009] Also proposed for achieving the object is a cleaning device ~~with the features of claim 9.~~ ~~The cleaning device~~ according to the invention, which is distinguished by the fact that the positioning device has a rough positioning system and a fine positioning system, the movement of the cleaning head being force-controlled by means of the fine positioning system at least in one direction of movement. By means of a cleaning device of this type, the advantages previously mentioned with respect to the method can be achieved. Furthermore, a force-controlling fine positioning system can be realized in a relatively simple form of construction.

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This applies in particular if the fine positioning system is formed as a functional unit with limited maximum force. For this purpose, the fine positioning system may have for at least one, and preferably all, of the directions of movement of the cleaning head that are relevant to component collision a respectively assigned fine positioning element for predetermining the contact pressure specific to the direction of movement. The fine positioning element preferably includes a telescopic adjusting mechanism, so that the cleaning head can be displaced by means of the fine positioning system along at least one axis of movement within a predetermined tolerance window. In this case, the tolerance window is defined by the maximum adjusting displacement of the fine positioning system and/or by the geometry of the cleaning head. The fine positioning element can be set in particular infinitely variably with regard to its maximum adjusting force, while forming the contact pressure, for example by means of a pneumatic or hydraulic actuating unit. Actuating units of this type allow relatively simple and rapid setting in terms of control technology of one or, if appropriate, more than one different contact pressure.

Please amend paragraph [00022] as follows:

[00020] The fine positioning elements 38, 40, 42, in each case having a telescopic adjusting mechanism, are respectively formed as a cylinder-piston system, a piston movement preferably taking place according to the present exemplary embodiment by means of compressed air. The open-loop or closed-loop control of the air pressure may in this case take place infinitely variably by means of an associated proportional valve with respect to the respective direction of movement. The cleaning device 14 corresponding to Figure 1 includes five proportional valves 64, which can be actuated by means of an open-loop or closed-loop control system 66 and make possible a force-controlled movement of the cleaning head 18 in the "+/-" directions 26, [[27]] 28 and in the "+" direction 24. To perform the cleaning task represented in Figures 1 to 5, a force-controlled movement in the "-" direction 24 is not required (see in particular Figure 2), but can likewise be realized in a corresponding way.

Please add the abstract of the disclosure on the next page.

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